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ABSTRACT

The purpose of this study was to examine the state level, district level, and school level education accountability data that were made available on selected State Department of Education Web sites in 2000-2001. The issues of interest were: (1) differences in reported indicators on the education report cards produced in Alabama, Georgia, Kentucky, Mississippi, and Tennessee; (2) implications of these differences, if any; and (3) the accessibility and availability of the report cards and related data. The states considered in this study produce and disseminate over the Internet several different types of report cards as components of their accountability procedures. Content analysis was selected as the most appropriate method of studying these sites. A description is given of the data provided by each state. With the exception of Kentucky, there were many similarities among the indicators reported by each state in this analysis. Report cards for each state included an indicator for per pupil expenditure, total student enrollment, student standardized test scores and writing performance, and an improvement measure computed by a state formula. Each state, except Kentucky, provided an indicator for revenue sources, number of certified personnel by category, number or percent of Title I or low-income students, number or percent of students in special programs, and high school exit examination pass rates. Kentucky presented its information in a narrative form and included much of this information in the narrative. Almost without exception, researchers who have used the indicator data have suggested that states include more, rather than less, information on their State Report Cards, especially community data and process data. Suggestions are made for ways states can improve information reporting. An appendix contains the template used for report card indicator classification. (Contains 1 figure, 2 tables, and 50 references.) (SLD)

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School District Accountability: Let Me Count the Ways

Marie Miller-Whitehead, Director TVEE.ORG

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School District Accountability: Let Me Count the Ways[1]

Not all states produce and disseminate annual report cards on schools as a component of their accountability mechanism. However, each of the states in this study published either a district level report with some school indicators or a separate report for each district and school in 2000-2001. The number of states with comprehensive accountability reporting mechanisms in place at the school level has increased over the past several years, perhaps partially due to the increased visibility provided by the Internet. With limited exceptions educational accountability is a power reserved to each state; therefore each state exercises considerable autonomy in the policies, regulations, and legislation that provide the basis for school governance and educational accountability reporting policies and practices. The Council of Chief State School Officers annual report on the states indicated that 39 states reported statistics at the school level in the year 1998 and 40 states did so in 2000 (Council of Chief State School Officers, 2000). A survey conducted in 2001 by *Education Week* reported that 27 states "assign ratings to schools or identify low-performing schools" (Linn, 2001, p. 4). The purpose of the present study was to examine the state level, district level, and school level education accountability data that were made available on selected State Department of Education web sites in 2000-2001. The research questions of interest were:

1. Were there differences in reported indicators on the education Report Cards produced by the states of Alabama, Georgia, Kentucky, Mississippi, and Tennessee?

2. If there were differences in indicators from state to state, what are the implications for policy and practice?

3. To what extent were Report Cards and related data readily available and accessible from State Department of Education web sites?

MIS protocols for reporting school data have evolved in recent years such that many school districts and schools are directly networked to their State Department of Education . However, the dissemination of school district and school report information to the public via the Internet in a web-based graphical format is even more recent. The present study recognizes that the use of web-based reporting may dictate the format of school system accountability information available on web sites, which may therefore differ to a greater or lesser degree from paper or hard copy reports that are provided internally within the states to school district personnel. The asynchronous nature of the electronic format for school district data reporting has several advantages. First, web-based information is available on demand; second, web-based information is more accessible to a much broader range of consumers and constituencies than print material that must be requested and mailed; and third, web-based information may be provided not only in printer-ready format but also in the form of data files for the search and

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[1]Marie Miller-Whitehead is the Director of TVEE.ORG. She has a Ph.D. in Educational Leadership and has published a series of studies on indicators of school effectiveness. This report is based on a paper the author presented at the Annual Meeting of the American Educational Research Association in New Orleans, LA.

retrieval of only as much information as is necessary to complete a specific task. Tennessee Valley Educators for Excellence (TVEE.ORG) has dedicated extensive time and effort in research and dissemination of current information about education indicators in Alabama, Georgia, Kentucky, Mississippi, and Tennessee. This report is a summary of a TVEE.ORG comprehensive three-year study of various aspects of state accountability systems.

Alabama, Georgia, Kentucky, Mississippi, and Tennessee all publish at least one state, school district, and school level report as a component of the annual state education report card although reporting categories are not identical. This is in part due to how departments are organized within the various State Departments of Education. Changes in reporting formats and categories may therefore reflect changes in administration or policies and procedures that take place within State Departments of Education or changes in legislated accountability mandates. Some state report cards provide quite detailed information on each district and school, including district, school, student and county demographics, parental involvement, test score data, promotion, dropout, and graduation rates, student followup, school recognition and rewards, as well as disaggregated disciplinary data, fiscal data (including class size), teacher training, experience, and salary data (Alabama State Department of Education, 2001; Georgia State Department of Education, 2001; Kentucky State Department of Education, 2001; Mississippi State Department of Education, 2001; Tennessee State Department of Education, 2001). Each of the states also has one or more state mandated annual achievement tests in place, either criterion-referenced, norm-referenced, or both, and several states compute and report a performance rating or grade for each district and school. States that require criterion-referenced tests usually benchmark student achievement criteria to state curriculum content frameworks or to national standards, such as those of the National Council of Teachers of Math (NCTM) or National Council of Teachers of English (NCTE). Some states have legislatively mandated accountability frameworks in place for the identification of at risk-schools and school districts. Thus State Departments of Education may identify schools and school districts as being on "caution" or "alert" status according to their accountability standards. These standards may include mandated minimum percentages for graduation rates, high school exit exam scores, attendance, and student standardized test scores. A state accountability system that not only identifies but that also has the power to sanction or take over continually low-performing schools is referred to as a high stakes accountability system.

The states in this study produce and disseminate over the Internet several different types of report cards as components of their accountability procedures. At the state level there may be a brief state summary report as well as a comprehensive annual state report that includes a breakdown by district of all reported state and district demographic, student achievement, and fiscal categories. Several states also publish a strategic plan, course content standards, and subject area curricular goals and objectives as components of the accountability mechanism (Blank et al., 2000). This analysis will examine state accountability reports, legislative mandates related to education, information about student testing and assessment, and other data (such as course content standards, course scope and sequence, or test blueprints) that are available via the Internet from the State Department of Education web sites of Alabama, Georgia, Kentucky, Mississippi, and Tennessee. Linda Schrenko, State School Superintendent of Georgia, identified the following objectives for Georgia's Education Report Cards, "they promote informed long- and short-term educational planning and decision making based on real data pertinent to schools.

Secondly, they serve as a means of accountability at the state, system and school level for the taxpayers of Georgia" (Georgia State Department of Education, 2001).

State summaries are usually one or two page annual reports that summarize the state's public education statistics aggregated into the broad reporting areas. Reported areas may include number of students in the state's public schools by grade level, student demographics, graduation and dropout data, number of schools, number of teachers, state's average teacher salary, categories and number of certified personnel, number of students in entitlement programs, education revenues from federal, state, and local sources, and aggregated state education expenditures by category. Alabama's summary is called *QuickFacts* and Mississippi provides *Selected Statistics on Mississippi Public Education*. These brief summaries are not to be confused with a state's formal Education Report Card or Annual Report on Education. Table 1 provides a comparison of web-published school district indicators that were available on the annual report card for Alabama, Georgia, Kentucky, Mississippi, and Tennessee and also shows if the state had in place a high stakes accountability system, i.e., a system with provision for sanctioning of schools and districts that continually failed to meet or improve on state-mandated accountability criteria.

Theoretical Foundations

Data collection and reporting and information management functions are predicated upon the assumption that it is necessary to have access to reliable data to make informed decisions. State, system, and school indicators provide descriptive data about educational inputs, processes, and outcomes that are of interest to parents, educators, and school, community, and state leadership. The following discussion examines Report Card indicators in selected regional studies conducted by educational researchers and economists. This review does not intend to be comprehensive, but rather provides an overview of the contexts within which administrators and policymakers have used Report Card data to examine the relationships of educational inputs, processes, and outcomes in the states of Alabama, Georgia, Kentucky, Mississippi, and Tennessee. Perhaps it is appropriate to begin with a brief discussion of several definitions of "indicator" or "unit of performance" as used in the context of school indicators, followed by suggestions of researchers on the kinds of information that should be used as indicators, and concluding with an overview of studies that have made extensive or exclusive use of State Report Card indicators and profiles.

What Are School Indicators?

According to a brief published by Shavelson, McDonnell, & Oakes (1991), "An indicator is an individual or composite statistic that relates to a basic construct in education and is useful in a policy context." They go on to assert that "the overriding purpose of indicators is to characterize the nature of a system through its components--how they are related and how they change over time. This information can then be used to judge progress toward some goal or standard, against some past benchmark, or by comparison with data from some other institution or country." For example, Linn (2001) recommended that accountability indicators place an emphasis on school improvement by using either a longitudinal or quasi-longitudinal approach.

using a past benchmark as a comparison. Jaeger (1978), in a comprehensive review of education indicators, identified their three primary uses as (a) program evaluation, (b) policy analysis, and (c) social systems monitoring. He described an indicator as "different from a statistic or a variable in degree that it provides information on status or progress in relation to goals, values, or programs" (p. 280). Educators must find the educational accountability summary statistics that are generated in State Report Cards both credible and useful (Clowers, Dickerson, Liu, & Davis, 1999; Tobias, Miller, & Friesner, 2001). To that end the National Center for Education Statistics and each state's Department of Education have in place a variety of mechanisms to assure the quality of their data collection, coding, imputation methods, and reporting (Kalton, Winglee, Krawchuk, & Levine, 2000). Linn (2000) recommended that accountability indicators use multiple student achievement measures rather than relying on a single test and additionally, that reports should "*consider both value added and status in the system. Value added provides schools that start out far from the mark a reasonable chance to show improvement while status guards against institutionalizing low expectations for those same students and schools*" (p. 15). A recent report by Gong, Blank, & Manise (2002) outlines a framework and process for the development of a comprehensive school accountability reporting system. Their report examines political and policy contexts, legal constraints, units of performance, and other considerations that are critical issues in the design of a good school accountability system, such as decisions about kinds of data that are provided to the public or only to school district personnel. Baker & Linn (1999) also examined accountability indicators and standards in a CRESST report that included recommendations for indicators.

Indicators as Measures of Organizational Effectiveness

Although quantitative indicators are easier to measure and provide the overwhelming majority of information on most Education Report Cards, even leading quantitative methodologists have agreed that not all indicators must be quantitative (Jaeger, 1978). However, Jaeger found that the vast majority of indicator systems provided "few descriptors of instructional processes and curricula" and that without these it was unlikely that educational systems models could be effectively evaluated. Blank, Manise, and Langesen (2000) examined the use of "enacted" or "implemented" curriculum indicators in school reports and profiles. Participant states in the project included Georgia and Mississippi, both of which reported curricular indicators in 1998 for courses offered and enrollment in special programs, but not for instructional and climate indicators such as class size, time-on-subject, violence, suspension/expulsion or other behaviorial indicators (Blank et al.).

Indicators may be considered in the broader context as measures of educational inputs, processes, products, outputs, and outcomes (Kaufman & Herman, 1991). By so doing, it is then easier to identify process indicators such as those mentioned previously, some of which are seldom reported on Education Report Cards. There are several reasons for this. First and most importantly, accountability mechanisms may dictate levels of improvement but generally do not mandate "how" educators should go about improving to the standards. Since "how" is a process, a "process" unit of performance is somewhat less likely to be the target of an accountability objective than is the outcome objective. Also, the concept of whether a unit of performance is an outcome or process indicator may depend largely upon the role of the constituency. For example,

to the conflict resolution team members improving school discipline is an outcome measure whereas to another constituency school discipline is an indicator of school climate, or a process measure. Secondly, process indicators may not only be more complex to measure than input or outcome indicators but also may be comprised of largely proprietary information, such as training materials, texts, curricula, or other copyrighted materials. Thus, while testing companies might make some test items available for public use they could certainly not be expected to do so with all of them. Linn (2001) noted that many "off the shelf" standardized tests are not aligned with state curriculum content standards, a curricular process variable. Unfortunately, it is sometimes difficult to determine the extent to which a standardized test is aligned with state curricular objectives and with classroom teaching practice (La Marca, 2001). However, teacher training on alignment of course content, state and local curriculum, and test objectives is a process indicator that may be reflected either by a teacher education level indicator or by a professional development indicator, or both.

Table 1

Accountablity Indicators on Exemplary District and School Report Cards

Student achievement (3 years)	Teacher & staff training	Test preparation program
Dropout rates	Instruction & Leadership	Parental involvement
Per pupil expenditure	Budget & salary	Teacher education
Class size & teaching load	Student preparation for work	Title I
Teacher credentials, staff gender and ethnicity	Instructional minutes	Before & After school programs
Textbook currency & quality	Days in school year	Voting district
Pupil support & counseling	School safety plan	Portable classrooms
Substitute teacher information	Academic performance index (Improvement or growth)	PTA President
School facility information	AP courses	Enrollment gender/ethnicity
Professional development	Pass rate for high school exit exam	School accreditation
School discipline & climate	College preparation	Student attendance rate
Free/reduced meals	Mobility index	PTA membership
National Merit data	Promotion rate	Computer/student ratio
Governor's School	Diploma type	Computers older than 5 yrs
Narrative data	Percent passing core subjects	Scholarship dollars

A Report Card may provide composite scores for student performance in indicators such as writing or it may report student scores for specific performance tasks, such as narrative, descriptive, expository or persuasive writing. The latter is a more specific curricular content indicator and more closely describes areas of student writing performance.

The Virginia Beach School System distributes a school and district "profile" as well as a Report Card. The "profile" reports school facility data as well as community and parent participation data in addition to student achievement data (Vaughn, 2001). Cherry Creek Schools provide narrative data (a message from each school's principal), student enrollment, diversity, stability (a mobility indicator) in addition to student achievement (Matter, 2001). The San Diego City Schools Report Card provides demographic information, school and district mission and goals, student achievement, teaching quality indicators (including instructional time,

facilities and safety, and class size), community involvement, and school budget and salary data (Bennett, 2001). Table 1 provides a list of indicators from these School Report Cards.

Indicator descriptors are often aggregated into more general categories for the development and testing of organizational effectiveness models. Kaufman and Herman identified an organizational model with five categories of indicators: (a) inputs, (b) processes, (c) products, (d) outputs, and (e) outcomes. Kaufman and Herman's model identified inputs as an organization's resources and raw materials including goals, objectives, financials, policy and regulatory mandates. They identified processes as the means and methods the organization uses to achieve results such as teacher training, school programs, school vouchers, and the curriculum. Products were intermediary or inroute results such as student course completion, promotion to next grade, or exam passed, an indication of progress toward a goal yet to be reached. Outputs included high school graduation and job placement (these being examples of the products of K-12 education) and outcomes were societal and community indicators such as per capita income, employment rates, crime rates, and so on. McLean et al. (1998) provided a simplified structural equation model of inputs, processes, and outcomes. In their model examples of inputs included such indicators as revenues, personnel, facilities, equipment, materials, policies, and student characteristics. Processes included broad indicators such as curriculum and instruction, policy implementation, parent involvement, leadership, and diverse educational opportunity. Outcomes included academic achievement, accomplishments (graduation, college enrollment and completion, job), school safety, and school retention and dropout rates. The coding of indicators will be discussed in more detail later.

Accountability Research in the Mid-South States: Recent Findings

While there are caveats associated with making comparisons at the state level, particularly student achievement comparisons, such an approach to examining educational outcomes for students is not without proponents including economists and educational researchers studying educational equity (Hussar & Sonnenberg, 2000; Krueger, 1998; Phillips, 1991). Hussar and Sonnenberg examined expenditures per pupil for each of the states, while Krueger conducted a meta-analysis of small class studies that included Tennessee STAR data. Krueger found that the use of cross-state level data was more likely to produce significant results than studies that used only within-state data. Krueger found that "finishing high school pays off" (p. 37) and pointed out that economists generally examine student educational attainment as a function of future earnings while educators are more likely to relate educational attainment to scores on standardized tests. Miller (1998) found that higher grades in high school and college accounted for 6.7% of long-term earnings for men and 8.3% of future earnings for women. Although the present analysis will not attempt to discuss them all, researchers and periodicals such as *Education Week*[2] have conducted numerous studies with state Education Report Card data for states included in this study. The following are representative examples of some of the studies that have been conducted using Education Report Card indicators from the states of Alabama, Georgia, Kentucky, Mississippi, and Tennessee.

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[2]*Quality Counts* provides state comparison data for some indicators.

Tennessee implemented a high stakes accountability system in 1992 as a component of a legislative mandate to assure educational equity for all of Tennessee's public school children. The Tennessee model measures three-year improvement as well as national percentile performance of school districts and schools. The high stakes component uses a value-added or gain score approach[1] to compute indicators for district, school, and teacher effects. The State of Tennessee commissioned two reports to assess the validity and reliability of the value-added system, finding that "at the school level, the cumulative gain scores are ...less stable than district gain scores ...the smaller the number of students in the sample, the more volatile the gain scores will be" (Baker, Xu, & Detch, 1995, p. 13). The combination of small numbers of students in some schools and classes and the necessity of having matched data for three years to compute the student, teacher, school, and district gain score indicator may present a challenge to district MIS personnel, particularly in schools and school systems with highly mobile student populations. In a true longitudinal model the same students must be tested each year. In this model schools are not held accountable for mobile students or students who change schools each year and for whom only one year of data is available. In a quasi-longitudinal model, all scores for students who are tested one year are compared to the scores for all students who were tested at the next grade level the next year, a cohort approach (Linn, 2001). A 1996 review of the Tennessee system recommended that the value-added system not be used at the teacher-level, that value-added scores should not be reported at the school and system level without including "current level of performance," and that demographic subpopulation performance be included in reports to local school systems and decision-makers (Bock, Wolfe, & Fisher, 1996).

Bobbett, French, and Achilles (1993) examined Tennessee School Report Cards and found that the school system indicators they selected to study were not powerful predictors of student achievement, with the exception of student attendance and per pupil expenditure. They recommended that additional reporting categories be considered, such as school climate, school organization, parental involvement, and the like. The same investigators concluded in a 1992 study that the variables reported in the Tennessee Report Card accounted for only about 50% of what influenced student achievement. As a result of Tennessee's initiative to improve educational opportunity for all students, particularly those in underfunded school systems, "percent of classes meeting class size requirements" and "percent of schools meeting class size requirements" became indicators on Tennessee's Annual School Report for several years. Nye, Hedges, & Konstantopolous (2000) conducted an analysis of the "small class" studies in Tennessee, finding that academic achievement was better for students in small classes (13–17) than in regular classes (22–26). Their research pointed to the importance of carefully defining indicators (or units of performance) across schools and in meta-analyses. Miller-Whitehead (2001a) used indicator variables from the 2000 Tennessee Report Card to examine student achievement as a function of teacher salary, finding that teacher salary and percent of local funding were significantly correlated with student achievement. Peevely and Ray (2001a) conducted a longitudinal study of Tennessee student achievement and funding equalization, finding that a narrowing of the gap in fiscal equity among school districts did not yield a proportionate student achievement gain. Peevely and Ray (2001b) found that "districts having the highest average level of outcome on the Rurality Index (not a Report Card indicator)

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[1]Often referred to as the Sanders Model.

consistently performed less well on most measures of the Tennessee State Board of Education Accountability Index" (p. 11). Using Tennessee Report Card indicator data, Miller-Whitehead (2001c) conducted a study of student science achievement in Tennessee and found that for students in grade 5, per pupil expenditure and percent of schools within the state class size requirements were significant predictors of higher scores on the TerraNova science subtest.

Lockwood and McLean (1997) concluded that while there was a positive relationship between school funding in Alabama and student achievement, the relationship was curvilinear rather than linear; they also noted that per pupil expenditure per student average daily attendance (ADA) was a more accurate measure of school funding than teacher salary due to differential compensation for teachers in certain areas. McLean, Snyder, and Lawrence (1998) proposed an accountability model for Alabama schools that included indicators generally exogenous to state Report Cards. Their report pointed out the difference between "accountability models [that] range from just reporting results to comparing actual achievement with predicted achievement" (p. 6). In a 1997 study that used Alabama Report Card indicators, Mathews and Hackett found that "the use of additional demographic indicator variables, not included in the Report Card, provided valuable information about school district grade definition status" (p. 21). The additional indicators that they included enabled them to better describe the relationships between student achievement and the schools' demographic profiles. A 1998 study of Alabama schools found that 2 of 11 Report Card indicators used in the analysis, the ability-achievement comparison index and the percent of federal revenues, were significant predictors of schools that were classified as high or low achieving (Mathews, Ross, & Spencer). Miller-Whitehead's (2001b) study of the Alabama Report Card found that there was a significant correlation between student achievement in Alabama and school size, attendance, and teacher education level. Ferguson & Ladd (1996) considered the sometimes conflicting findings of research on student achievement as a correlate of school inputs, concurring with researchers whose evidence pointed to a large enough positive relation between school effect and student achievement to be important for making policy decisions about school funding. Ferguson and Ladd's study used student test score achievement as a proxy for future earnings, as did research mentioned previously, and supplemented Alabama Education Report Card indicator data with community demographic data.

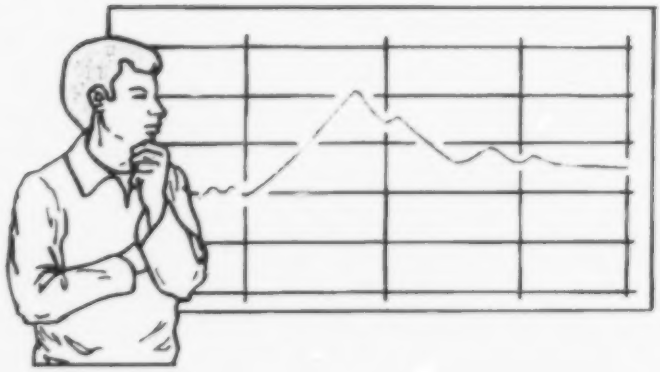
Kentucky's reporting and accountability system is quite innovative and has thus been itself the subject of assessment, as has that of Tennessee (Darling-Hammond, 1997; Stufflebeam, 1997). For one thing Kentucky's accountability system provides more qualitative indicators than do most accountability systems. Klecker (2001) compared the Kentucky Report Card indicators of high and low achieving schools and found that median teacher education level was higher for schools that had the highest grade 4 reading achievement than for schools where grade 4 reading achievement was lowest. Klecker suggested that the clarification of some of the reporting categories on the Kentucky Report Card would add to its utility. Reeves (2000) sought to determine if Kentucky's high-stakes accountability system would be a fair assessment of achievement for students in disadvantaged districts within the context of community factors such as income, teen birth rate, and rurality.

Martin and Slate (1998) used Georgia Report Card indicators in a study of student achievement as a function of secondary school size, with school size a categorical variable. They found that students in larger schools did better on TAP math and reading and GHSGT

writing, English, and math than did students in small high schools, although after controlling for SES they found no appreciable differences.

Ritter and Hughes (2001) conducted a study of school finance equity among mid-South states of Alabama, Arkansas, Kentucky, Louisiana, Mississippi, and Tennessee, finding that differences in methods of reporting and in categories on school Report Cards necessitated the use of additional data sets to assure consistency in the data. Their analysis provided a detailed comparison of the funding components for each of these states for the years 1998-1999.

Using 10 school quality indicators from an unidentified southern state Education Report Card, Mathews (2001) examined data for over 1,300 schools in 127 districts, finding that student achievement was positively correlated to school attendance and percent local revenue. He concluded that "contextual variables provide important information in the relationship between these contextual variables and academic status in low SES schools" (p. 49).



Be a Trend Watcher!

Methodology

The author conducted a search of State Department of Education web sites to determine (a) the number, level of disaggregation, and categories of accountability data and reports made available, (b) the accessibility of data and reports from the states' web sites, and (c) the format of data and reports provided on the web sites. Three aggregate categories of information examined in this analysis were: (a) state, district, and school level annual report cards; (b) current and proposed educational accountability policies and state legislation; and (c) information about state-mandated tests including test publisher, type of tests, and tested subjects and grade levels that would be useful for parents and educators.

The study sought not only to provide a state-by-state comparison of accountability indicators for Alabama, Georgia, Kentucky, Mississippi, and Tennessee, but also to determine how the information was made accessible on state web pages, i.e. either by menu options, by a search of the site, or by redirecting the user to another site such as the web page of the state's legislative branch of government. For some data and reports formats varied from pre-formatted Word, .pdf, or .html files to spreadsheet, database, text files, and PowerPoint presentations.

Content analysis was selected as the most appropriate methodology for the organization of this large amount of descriptive data where results are reported as checklists and frequency counts. The coding template for accountability indicators that are included on each state's education report card is provided in Table 2. Indicators for state level, system level, and school level reports are provided on this table, with State level indicators coded as ST, district or system level indicators as D, and school level indicators as S. For example, a code of ST is used to indicate that either the indicator is reported *only* on the State Report Card, or that only state level data are reported even if the indicator is included on the District or School level report. Likewise, a D indicates that the indicator is reported at the District level. An example is per-pupil expenditure. Table 2 data shows that some indicators are unique to a particular state or reporting level. An asterisk indicates additional detail or disaggregation of the indicator. Results are summarized in the following sections.

Some indicator categories may seem relatively straightforward, such as number of students or number of schools, although even for these there is some overlap. For example, students may attend some classes at vocational training centers or alternative schools but be assigned for enrollment purposes to a local area high school. In this case, the type of school the student attends, i.e., community, charter, magnet, vocational, alternative, or the like is a process variable that is presumed to effect student achievement. Likewise, Title I, Headstart, Gifted and Talented, and Before-and-After school programs are process or "implemented curricula"indicators as these offer specialized enrichment opportunities for students that also effect student outcome indicators. Most states probably use the same method to compute and report enrollment figures, but the overlap of students necessitates care in making comparisons. States report ACT averages by school district, but the states differ in reporting the score as an average composite score or as an average for each of the subtest areas. If the report includes an indicator for both Average Daily Attendance (ADA) and Average Daily Maintenance (ADM) it is noted on Table 2. Other issues in the examination of indicator variables include the difference between the pupil-teacher ratio (PTR) indicator and the class size indicator when class size is

provided. These indicators are not synonymous; however, when PTR is not provided on the report card it can often be derived from other indicators while class size cannot. While it is useful from a policy perspective to have an indicator for percent of classes within a school that meet state class size requirements it is also useful to know what the state class size requirements are, since these often vary from state to state depending upon the subject areas and grade levels of students. The choice of indicator reported (PTR or class size) and its effect on results of research on student achievement has been examined in many class size research studies (Achilles, Finn, Gerber, Pannozzo, & Boyd-Zaharias, 2000). Class level, class size, and school level course and enrollment figures may also be somewhat misleading when aggregated, as is the case when one instructor teaches two levels (or in some cases three levels) of a subject in one classroom concurrently (i.e., AP and IV, or AP, IV, and III, or prekindergarten, kindergarten, and first grade). The utility of indicators for analysis purposes is improved when the indicators or units of performance are adequately operationalized in a glossary or in footnotes.

For the purposes of this report, computations for derived indicators are noted if this information was provided on the state's Report Card, for example an achievement to ability comparison or overall performance grade for a school system or school. When measures of improvement such as value-added, performance index, or achievement to ability comparisons are included as indicators on a School or District Report Card their computation is usually determined by the State Department of Education. To facilitate an examination of the information provided on Table 2, the same categories may serve as a sample template for coding the resultant indicators according to whether they are units of performance for input, process, product, output, or outcome measures as well as for the analysis of differences and commonalities that may be the result of the differences in state accountability legislation and SBE regulations. This information can then be used to develop an organizational effectiveness model for the states or levels of reporting of interest (Figure 1). For example, Alabama's accountability legislation mandates two main outcomes for education, high achievement for students and a safe and orderly environment in which to learn. The data from the Alabama's Education Report Card (Table 2) aligned with a state's educational accountability statutes might then be used to graphically display the accountability process. The table in Appendix A may be used as a template to code indicators as inputs, processes, products, outputs, or outcomes.

Figure 1. Example of how inputs and processes effect the desired education outcome goals of student achievement and a safe and orderly learning environment.

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Table 2

Sample Coding Template for Web-published Report Card Indicators[4]

Indicator	AL	GA	KY	MS	TN
N portable classrooms	ST, D, S				
N schools meeting class size requirements					
N districts (city and county*)	ST*			ST	ST, D
N schools	ST, D	ST,D		ST	ST,D
N Title 1 schools (N students*) (Academic success**)		ST,D, S		D	ST*,** D**
N Before and after school programs					
N Headstart programs					
Pupil/teacher ratio		ST,D	D, S	D	
State rank in education spending	ST		D, S		
Total per pupil expenditure (disaggregated by source*)	ST, D	ST*, D*	D, S	ST*, D*	ST, D
N Carnegie units taught				D	
N AP classes (scores of 3 up*)		ST*, D*, S*		D	
AP students as % of high school enrollment				D	
N students total (by grade level*)	ST*, D, S	ST, D, S	D, S	ST*, D	ST
Enrollment (gender & ethnicity*)	ST	D,S	D, S	D*	ST, D
Average daily attendance, ADM*, comparisons**	ST, D**, S**			D	ST, D
Revenue sources, local, state, federal, other	ST, D	D		ST, D	ST, D
Mills equivalent or ad valorem	ST, D	D			ST, D
N Transportation	ST, D, S				

[4]An * indicates additional disaggregation of the indicator

[5]On State Annual Report

Indicator	AL	GA	KY	MS	TN
Expenditures by category: instructional, admin., capital outlay, operations, debt service, transportation, etc.	ST, D	D		D	
N professional personnel FTE by category (teacher, admin, support, etc)	ST, D, S	D,S		ST, D	ST, D
N professional personnel by gender & ethnicity		ST, D			
N teaching waivers or emergency license				D	ST, D
Average teacher salary (state and district*)	ST	ST*, D		ST*	ST*, D*
Average years teaching experience		ST, D, S	D, S	ST	
N Bachelor, Master's, and Higher Degrees*	ST, D, S	ST, D, S		ST*, D*	
% Classes taught by teacher w/ major/minor in subject			D, S		
% Classes taught by teacher certified for subject/grade			D, S		
% Classes taught by teachers who participated in content-area professional development			D, S		
N students Special Ed, Gifted, Adult Ed, Vocational	ST	ST, D, S		ST, D	ST, D
N or % students Title I, (Free/Reduced meals*)	ST, D*, S*	ST, D, S		D	ST, D
N or % ESL		ST, D, S			ST, D
Graduation requirement units ("successful graduate"*)	ST[7]		D*, S*	ST	
Narrative data[8]			D, S	ST	
N or % Discipline by type	ST, D, S		D, S		ST, D
N or % Dropouts	ST, D, S	ST, D, S	D, S		ST, D
N or % Dropouts by gender and ethnicity	ST				

[6]Can be computed from state and district totals

[7]QuickFacts 2001

[8]Includes parental involvement, n computers per student, conferences, use of technology, extracurricular activities, school awards, educational equity, school goals

Indicator	AL	GA	KY	MS	TN
N or % Retained students (gender, ethnicity*)		ST*, D*, S*	D, S		
N or % Promoted					ST, D
Total battery scores for normed and criterion tests	ST, D, S	ST, D, S	D, S		ST, D, S
Scores for each tested subject: language, reading, math, science, social studies, (district and school*)	ST	ST, D, S	D, S	D*	ST, D, S
Writing performance scores (disaggregated *)	ST, D, S	ST, D, S	D, S	D	ST, D, S
Achievement/Ability comparison, Performance Index, Growth, or Value Added	ST, D, S	ST, D, S	D, S	D	ST, D, S
High School Exit Exam pass rates	ST, D, S	ST, D, S		D	ST, D, S
ACT composite average (subtests*)	ST, D, S	ST, D, S		D	ST, D*, S
SAT average, verbal and math		ST, D, S			ST, D
N Diplomas awarded by type		ST, D, S		D*	
N Graduates (graduation rate*)	ST	ST, D, S		ST, D*	
N Graduates by gender & ethnicity	ST	ST, D, S			
N GED	ST[10]			D*	
N Programs with Industrial Certification	ST, D				
School Accreditations		ST, D, S			ST, D
School Awards and Recognition		ST, D, S	D, S		ST, D
N Schools performing above, at, or below national norms (high stakes)	ST, D, S		D, S	ST, D	ST, D, S
Per capita income, state, local		ST, D			ST, D

[9]Junior high and high school

[10]Special Ed

[11]On Annual Report

Indicator	AL	GA	KY	MS	TN
Unemployment rate, state, local		ST, D			
Migrant population, state, local		ST, D			
Total population, state (local*)	ST	ST, D			
Population ethnicity, state (local*)	ST				

Results

Alabama In 2001 Alabama's State Department of Education published to the web *Quick Facts*, a two page summary in .pdf format of some of the state's education indicators. Reported areas in 2001 were (a) number of city and county systems; (b) number of schools; (c) state average per student expenditure; (d) state population; (e) state rank in education spending; (f) state average teacher salary; (g) school size and enrollment by gender and ethnicity; (h) state tax sources and fiscal receipts; (i) transportation and school meal data; (j) school personnel by category, gender, and ethnicity; (k) education level and certification of teachers; (l) enrollment in special education, gifted, vocational, and adult education; (m) state graduation requirements; (n) dropouts by gender and ethnicity and projected cohort dropout rate; (o) state SAT aggregate scores for reading, math, language arts, science, and social studies; (p) state average pass rates for the High School Exit Exam; (q) ACT composite average for the senior class; and (r) SAT verbal and math average scores.

Alabama also produced the *Superintendent's Report Card*, an annual report that included two major components, student achievement indicators and financial indicators. The student achievement indicators were (a) percentile rank scored by grade on the total battery (composite) of the SAT9, (b) average percentile rank over all grades, (c) academic achievement status (Clear, Caution, Alert 1, Alert 2, or Alert 3), (d) percentage of improvement from year to year, (e) achievement to ability (f) percentage of high school students that pass each sub test (reading, language, math) of the High School Exit Exam on first attempt, (g) percentage of high school seniors that passed each sub test of the High School Exit Exam on all attempts, (h) a grade to indicate the level of achievement on the Writing Skills Test administered at grades 5 and 7, and (i) average score for the senior class on the ACT Exam.

The financial indicators included were: (a) expenditures per child based on first 40 days ADA, (b) percent of students eligible for free or reduced lunch, (c) total system revenue percentages by category: state, local, federal, and other sources (d) mills equivalent, or local eligible revenue divided by the value of a mill of ad valorem tax, (e) yield per mill per child, or the value of one mill of tax divided by the student count in average daily attendance.

The annual *Superintendent's Report Card* also included additional information about the school system such as (a) student enrollment and percent of average daily attendance, (b) projected dropout rate, which is a projection of the cohort of grade 9 students that will not graduate, and (c) the percentage of teachers holding the Bachelor's, Master's, and Higher Degree Certificates.

An individual *System Report Card* for each of Alabama's public schools was also published to the Internet, searchable by the name of the school district. These reports were printer-ready in .pdf format. Since data become available for different reporting areas throughout the year, separate files contained data for SAT9 scores, High School Exit Exam pass rates, schools placed on caution or alert status, and the annual *School System Report Card* for each district. The reported areas of the *School System Report Card* were (a) number of portable classrooms; (b) number of professional educators; (c) number of teachers at Bachelor's, Master's, or Higher Degree; (d) percent of technical programs with Industrial Certification; (e) safety and discipline incidents by type and number; (f) sources of revenue, local, state, federal, and other; (g) use of funds; (h) per pupil expenditure; (i) mills equivalent; (j) academic performance summary; (k) number and percent of schools in clear, alert, or caution status; (l) five year student performance in grades 3 through 11 on SAT9; (m) achievement to ability comparison grade (computed); (n) writing performance grade; (o) ACT test average compared to state and national average; (p) dropout rate compared to state average; (q) five year student enrollment totals; (r) five year ADA; (s) three year percent of students eligible for free or reduced meals compared to state average; (t) and percent of students passing the reading and language sections of the high school graduation exam.

Georgia Georgia publishes four levels of report cards: a *State Report Card*, a *School System Report Card*, a *School Report Card*, and a *Parent's Report Card*. This discussion will address the first three of these reports. The *State Report Card* presents indicators in the following categories: student data, state-required test data, graduate data, college admissions/credit test data, postsecondary data, accreditation/recognition data, community data, fiscal data, and certified personnel data. Student data indicators are (a) total enrollment by race, ethnicity, and gender; (b) enrollment in selected programs (gifted, vocational, and alternative); (c) enrollment in compensatory programs; (d) free and reduced-price lunch; (e) dropout rate; and (f) retained students. State-required test data are (a) three years of student assessment data for the norm-referenced SAT9 at grades 3, 5, and 8 (total math, total reading, language, science, social science, and composite); (b) three years of student performance on the criterion-referenced CRCT for grade 4, 6, and 8 reading, language arts, math; (c) three years of writing performance assessment scores at grade 5 and 8; and (d) high school exit exam pass rates for English, math, social science, science, and writing sections. Graduate indicators are (a) high school diplomas granted by type and ethnicity; (b) HOPE scholarships; and (c) grade 9 cohort graduation rate. College admissions/credit test data include (a) SAT verbal, math, and composite, (b) ACT by subtests and composite scores, and (c) AP exams. Postsecondary indicators are (a) graduates entering Georgia public colleges, (b) graduates requiring learning support, and (c) graduates entering Georgia public Technical and Adult schools. School accreditation and recognition indicators are (a) SACS accreditation, (b) GAC accreditation, and (c) charter schools, pay for performance, Georgia School of Excellence, or Blue Ribbon schools. Community indicators are (a) number children eligible for migrant education; (b) number of families at risk; (c) number of food stamp participants; (d) families receiving TANF; (e) community per capita income; (f) unemployment rate; (g) total and projected population. Fiscal indicators are (a) millage rate; (b) value of one mill; (c) FTE count; (p) aggregate revenues, local, state, federal, other (q) K-12 expenditures by category; (r) and aggregate teacher salary and benefits expenditures. Certified personnel indicators are (a) number of positions by (b) gender, (c) ethnicity, (d) certificate level,

(e) years of experience, (f) category as teacher, administrator, or support personnel, and (g) certified staff position ratios.

The format and reporting categories of the *School System Report Card* are the same as those of the *State Report Card* and are available as .pdf files. School district reports may be searched and sorted on the web site by category (such as student achievement data) for district to district comparison purposes. The school level reports are abbreviated versions of the longer district level reports differing only in that neither revenue and nor expenditure, teacher salary data, nor community characteristics are reported and student data are only provided for grade levels served at the school.

Kentucky Kentucky has devoted several years to the design and implementation of an innovative and unique accountability system that contains more narrative data than any of the other state reports discussed in this paper. The Kentucky accountability mechanism generates a formal report at the system and school level. Pre-formatted school system reports and data files at the school system and school level are available for download from the web site of the Kentucky Department of Educational Accountability. Reported components and indicators for 2001 included a school growth chart to track performance trends (a) narrative about the school; (b) narrative about how school ensures educational equity; (c) number of students; (d) levels of achievement on KCCT by subject area; (e) achievement on CTBS/5; (f) student attendance rate, retention rate, and dropout rates; (g) transition to Adult Life, a measure of being a "successful graduate" (h) state contest results for academics, band, chorus, etc.; (i) teacher qualifications, % classes taught by teacher certified for subject/grade, % classes taught by teacher with major or minor in teaching field, % classes taught by teacher who participated in content-area professional development, % teachers with Master's or higher degree or equivalent, and average years of teaching experience; (j) Learning environment, visitors are required to sign in, parents received the discipline code, % of classrooms have telephones with outside lines; (k) discipline and safety, narrative for drug and weapon detection procedures; (l) safety violations, number of assaults, drug abuse, weapons violations; (m) student resources, spending per student, student-teacher ratio, student-computer ratio, % of classrooms with at least one KETS workstation with Internet access; (n) narrative on use of technology in teaching; (o) parental involvement, participation in teacher conference, voting in school council election, serving on school council, number of volunteer hours; (p) narrative on extracurricular activities available at school; (q) narrative on school awards and recognition; (r) narrative on what the school is doing to improve; and (s) who to contact for more information. Kentucky also publishes an "expanded report card" for those who make a special request at the school district office. The expanded report, which includes disaggregated school district test score data, is not currently available over the Internet.

Mississippi Mississippi's accountability procedure benchmarks student achievement on state mandated tests to the Mississippi Curriculum Standards, consistent with the purpose of criterion-referenced measures. The Mississippi End-of-Course (EOC) tests are also criterion-referenced. Several states have established benchmark standards for teacher and administrator evaluations. Of the states in this proposal, all require at least one criterion-referenced test such as a writing test, and most use criterion-referenced tests for other subject areas as well, at least at some grade levels. The Mississippi State Department of Education produced an HTML report, *Selected Statistics on Mississippi Public Education*, that included the following information at the state

level: (a) number of elementary, secondary, alternative, vocational, and special schools; (b) number of school districts; (c) total state enrollment by grade; (d) number of instructional personnel by certificate; (e) number of substitute teachers; (f) average teacher salary; (g) state, local, and federal revenue sources; (h) per pupil expenditure from local, state, and federal sources; (i) number of graduates; (j) number of students in vocational, technical, and adult education; (k) number of students in Special Education or Gifted Education; (l) criterion-referenced subject area test results for grades 2 through 8; (m) K-2 assessments and (n) graduation requirements.

Mississippi also produced report cards for each school district in .pdf format and a comprehensive HTML state level report with longitudinal data for each school system including superintendent, administrator, and teacher salary data for each school district in Mississippi. As of the publication of this study report cards for individual schools were not linked to the web site of the Mississippi State Department of Education although many schools maintain their own web sites.

Tennessee While there have been few changes in the format and indicators reported on Tennessee's annual *Public School System Report Card*, there have been a variety of changes in system and school level reports. At least one of the school system reports produced and disseminated to school systems as a brochure is either no longer produced in the same format or is not publically available on the Tennessee Department of Education web site. For several years the individual school reports of student academic achievement were published on the web site of *The Tennessean*[12]. The school system level report indicators included (a) grades served by system; (b) number of schools; (c) number of students by ethnicity, LEP, Special Ed, Adult Ed, Title 1; (d) number of professional personnel; (e) number of SACS accredited schools; (f) attendance rate; (g) promotion rate; (h) dropout rate (event and cohort); (i) number suspended and expelled; (j) national percentile CTBS/4(5) by subject area; (k) value-added cumulative by subject area; (l) high school subject matter value-added; (m) ACT subject area and composite; (n) Work Keys, subject area; (o) SAT verbal, math, and combined; (p) writing assessment performance level; (q) high school competency exam pass rate; (r) teaching waivers and permits; (s) percent teachers by category and number Career Ladder; (t) percent of expenditures by major function; (u) per pupil expenditure; (v) average teacher salary; (w) funding by source; (x) Basic Education Program by classroom and non-classroom; (y) five year increase in BEP; and (z) county fiscal capacity including tax base and county per capita income.

Tennessee's .pdf format web-published *Public School System Report Card* provides two categories of indicators, Tennessee student data and Tennessee school system data. The 2001 Report Card included one indicator category not on the 1999 Report Card (Incentive Awards Program). No longer reported for 2001 were indicator categories (a) Adult High School students, (b) Progress in Reading and Mathematics Grade 2, (c) Class size Requirements, (d) Expenditures by Function, and (e) State and Local Revenue per Student. The 2001 Public School Report Card indicator categories provided the following data for each of Tennessee's public school systems: (a) number of students; (b) ethnic composition; (c) Title I compensatory program; (d) free and reduced meal program; (e) Special education program; (f) English

[12]A Nashville daily newspaper.

Language Learner program; (g) attendance rates; (h) promotion rates for K-8; (i) dropout rates for 9-12; (j) students expelled or suspended; (k) TCAP assessment 3-8; (l) TCAP writing assessment; (l) Value-added assessment; (m) TCAP high school Competency Test; (n) high school subject matter tests - Math; (o) SAT I; (p) ACT; (q) ACT Work Keys; (r) total schools and grades served; (s) SACS accredited schools; (t) personnel by category; (u) employment standards waivers and permits; (v) expenditures per system (w) expenditures per student; (x) expenditures for principal and interest on bonded debt paid by other agencies; (y) average salaries for teachers; (z) public school funding by source; (aa) Incentive Awards program; (ab) BEP formula; and (ac) County-area education fiscal capacity. Many of these categories were composed of one or more subcategories. For example, "County-area education fiscal capacity" included county three-year-data for (a) county property tax base per student, (b) county sales tax base per student, and (c) county per capita income.

Education Accountability Policy and Legislation

For the most part, each state maintains a separate web site for the executive, judicial, and legislative branch of government and therefore there may not be a direct link from the Department of Education to information about in-place or proposed legislation that effects the education of children in the state. Policy makers, parents, and educators often seek current information about a state's educational accountability mandates, including state policy on attendance, exit exams, state-wide testing, graduation requirements, core curriculum standards for tested grade levels and tested subjects, and services for special populations such as English Language Learners and Special Education students. A linkage between accountability reports and proposed or approved legislation helps to assure that accountability indicators remain aligned with the most current state education laws, policies, and regulations.

The Alabama, Georgia, Kentucky, Mississippi, and Tennessee Department of Education web sites provide varying amounts of information about in-place and proposed education legislation. Georgia provides information on State Board of Education regulations and on cases pending before the SBE. Tennessee's Department of Education maintains a page with all current regulations on the governance of Tennessee's schools, but to access proposed legislation and resolutions it is necessary to search the web page of the Legislative branch.

The Alabama State Department of Education web site has provided an onsite page that contains a summary of proposed legislation and resolutions before the Alabama House and Senate. Alabama's education accountability indicators are set forth in Alabama Code §16-6B-1. The two priorities of Alabama's educational accountability legislation are (a) high achievement for students and (b) a safe and orderly environment in which to learn. Currently proposed legislation is listed on the ALSDE homepage at http://www.alsde.edu/html/legislation.asp. The language that sets forth the provisions for educational accountability reporting is located at: http://www.dpo.uab.edu/~tnmarie/al_law.htm. In Alabama the legislature is considering a 30 (or 35) mill minimum ad valorem tax to be used for schools, $15 additional funding per student in grades 9 - 12 to be used for science courses, $5 per student in grades K - 8 to be used for hands-on-science courses, a 3% pay increase for teachers, school superintendent qualifications, an ad valorem tax to fund prekindergarten, and a bill to place speech pathologists on the same pay scale as certified teachers.

The Georgia Department of Education (GDE) web site maintains a link to current and proposed legislation at http://www.doe.k12.ga.us/legalservices/bill_timeline.html. The State Board of Education also has a page that lists current cases and appeals before the Georgia SBE. The language of a resolution commending the Georgia Department of Education for its educational accountability system is located at: http://www.dpo.uab.edu/~tnmarie/ga_law.htm

Kentucky education accountability legislation is set forth in House Bill 940 also known as the Kentucky Education Reform Act (KERA) of 1990. Among its provisions were that schools should (a) increase attendance rates, (b) reduce dropout and retention rates, (c) reduce physical and mental barriers to learning, and that (d) schools shall be measured on the proportion of students who make a successful transition to work, post-secondary education, and the military. The language of this legislation is located at: http://www.dpo.uab.edu/~tnmarie/ky_law.htm. Current and proposed Kentucky school legislation is posted at Kentucky's Department of Education website at: http://www.kde.state.ky.us/comm/mediarel/legislation.asp. Among legislation currently being considered in Kentucky are bills that would mandate school attendance until age 18, increase the required number of instructional days to 180 and student attendance to 190, require high schools to teach Kentucky geography and history, establish requirements for home study students, and restrict beverage sales in elementary schools.

Mississippi's Department of Education web site also maintains a link to current and proposed legislation at http://www.mde.k12.ms.us/extrel/leg_bills.htm

Tennessee's Department of Education web site provides links to legislation passed and signed by the Governor during the 2001 session at http://www.state.tn.us/education/leg_psl2001.htm. The language of Tennessee's Educational Improvement Act of 1992 (TCA §49-1-601) may be found at http://www.dpo.uab.edu/~tnmarie/TCA2.htm. Among recently enacted Tennessee legislation are provisions that allow for adoption of electronic textbooks, require TCAP student achievement scores to be disaggregated prior to release, require raw score data be sent to school districts prior to June 30, allow BEP funds to be used for salary adjustments or improvements, and require school boards to have written policy regarding interview and selection process for position of director of schools.

Student Testing and Achievement

Professional educators and the public usually are aware that in many states school children will be required to take certain tests administered to each eligible child in the state, including in some states a high school exit exam. These assessments may be in the form of multiple choice tests, constructed response, or performance assessments and the tests may be normed, criterion-referenced, or both. Also, requirements are subject to changes that may include changing the test, the tested subject areas, the grade levels at which children are tested, as well as changing the guidelines for student accommodations. Several states are in the process of changing their state mandated tests, either to new tests or to more recently normed versions of their current tests. Nevertheless, the state testing programs are configured quite differently, with the Kentucky test a matrix design such that students are tested in alternate years of subject areas, rather than each year. Georgia tests reading, language arts, and math each year, but science and

social studies in alternate years. Alabama and Tennessee test reading, language arts, math, science, and social studies each year from grades 3 through 8. The Alabama State Department of Education Report Card reports Total Battery (or Composite) scores but not subtest scores as do Georgia, Kentucky, and Tennessee. Of the states included in the study, Alabama, Georgia, Mississippi, and Tennessee require that students pass a high school exit exam to receive a diploma; Kentucky does not require a high school exit exam but does require a student portfolio. However, the tested areas of the exit exams for states that require them vary both from state to state and from year to year within states, with Mississippi and Tennessee in the process of implementing new end-of-course exit exam requirements in subjects required for graduation such as History, English, and Algebra to replace their current high school exit exams. Students in Alabama are currently required to pass the reading and language arts sections of the high school exam to graduate and will be required in coming years to pass math and science, while the Georgia High School Graduation Test (GHSGT) requires math, writing, language arts, and science, and the current Tennessee Competency exam requires that students demonstrate competency in both mathematics and language arts. Mississippi's Functional Literacy Exam (FLE) tests math, writing, and language arts skills.

Conclusions

Generally speaking, with the exception of Kentucky, there were many similarities among the indicators reported by each state in this analysis. For example, states may have reported a school system's teacher education data at three, four, or five levels: (a) Bachelor's, Master's, and Higher Degree; or (b) Bachelor's, Master's, Specialist, Doctoral, and Other. Several states provided community information on at least one report, while others included only data for school districts, schools, teachers, and students. States may also have in place a formula for assigning school systems a grade based on effort-to-capacity, achievement to ability, or value-added for reported indicators such as student achievement and local funding, expressed in comparison to state, regional, or national averages. On some reports high school completion was used as an indicator and on other state reports high school dropouts were reported. Likewise some states reported both promotion and retention rates, while others reported only one or the other.

Almost without exception, the researchers who have used the indicator data provided by the states in this study have suggested that states include more rather than less information on their State Report Cards, particularly community data and process data. Community level data such as mobility, education level, ethnicity, and per capita income are often more effective indicators than county level data for making predictions about school needs and student achievement. For example, in schools and districts with highly mobile populations, cohorts of students with sufficient data to compute trends may represent a very small percentage of the total student population. Blank et al. (2000) identified curriculum, instruction, and climate process indicators as (a) courses offered, (b) enrollment in core courses, (c) enrollment in special programs, (d) class size, (e) time per subject, (f) incidents of violence, and (g) suspensions and expulsions.

State Report Card data have been used in research that has supported initiatives for teacher training and professional development, reduced class sizes for certain populations of students, equal opportunity for disadvantaged students, educational funding equity litigation, improving educational opportunity for rural and urban students, community outreach and involvement, school facility planning, district zoning, charter schools, block scheduling, and magnet schools to mention only a few. There are several conclusions that can be drawn from this analysis. First, there were differences in the reported indicators available on the web sites of the states. However, unlike the printed versions of the annual State Report Cards that are published only once each year, data may be posted to a web site at any time, may be linked and unlinked for a particular event or period of time, or may be restricted to authorized users. A web site is a very fluid and immediate medium; it may be that by the time this study is published new information has been posted that was unavailable at the time of writing. Also, there are often significant differences between data that are publically available on the Internet and information that is available by special request of a data set. The main between-state differences were generally in the level of aggregation of the data provided rather than in the broad reporting categories. However, Tennessee and Georgia provided at least some community-level data, and Kentucky provided more information about parent participation than the other states. Kentucky was also unique in providing an indicator for "successful graduate." This indicator is related to the econometric concept of education as a production function and acknowledges that student test scores are only one measure, and perhaps not the most important measure, of student achievement. State Report Cards, usually produced by each State Department of Education's Office of Educational Accountability, were readily available from web sites but not always identified by a front page link on the Department of Education's web site. Information about proposed legislation and testing was less easy to find on most web sites than were State Report Cards although Alabama has a front page link to current education legislation. The web site of Georgia's Department of Education has won awards as a "best site" for the quality and accessibility of the information it provides. Given the kinds of decisions that have been made based on Report Card research, the information provided by State Report Card indicators has significant and far-reaching implications for educational policy and practice. Most Report Cards provide at least three to five years of longitudinal or quasi-longitudinal data for each reported area as an aid to the identification of trends in improving toward benchmarks or standards that have been identified as priorities by the individual Departments of Education. If we accept the definition of "indicator" suggested by Shavelson et al. as "an individual or composite statistic that relates to a basic construct in education and is useful in a policy context" then we conclude with the broad recommendation that School Report Cards should include indicators that are descriptive of areas of concern to those who make policy recommendations at the local, state, and national level. Shavelson et. al point out that indicators are not meant to replace evaluation as they are not designed to provide the same depth of detail that is integral to evaluation. Educators who are charged with designing indicator systems for school district report cards then must decide upon the most appropriate level of aggregation to report that will be useful in a policy context for making decisions about schools while remaining mindful of the political and legal contexts within which they are to be implemented.

Summary This analysis only provides summaries of the data available on formatted state reports. Similar indicators were reported for the following: the Report Cards for each of the

states included an indicator for per pupil expenditure, total student enrollment, student standardized test scores and writing performance, and an improvement measure computed according to a state formula. Each state with the exception of Kentucky provided a specific indicator for revenue sources, number of FTE certified personnel by category, number or percent of Title I or student entitled to Free/reduced price meals, average teacher salary, number or percent of students in special programs, and high school exit exam pass rates. Because Kentucky uses a narrative report this information may be provided in the report narrative: for example, there is a section for schools and districts to "describe how the school ensures educational equity" and another area for the school to describe its extracurricular activites, awards, and recognitions. For the Kentucky report, narrative data might be coded and placed in the appropriate indicator category or new indicators created.

The choice of reported indicators may be determined by state policy priorities. For example, Tennessee initiated a comprehensive effort to reduce class sizes and for several years included a "class size" indicator. This reporting category was discontinued when the state no longer issued class size waivers. Since an indicator is used as a measure of meaningful differences between schools and school systems it may cease to be reported when all schools have achieved the target level of attainment in that area. However, if a state goal is to have an attendance rate of no less than 95% it may still be of interest to parents and educators to know that a school or school district has an attendance rate of 98% or 99%.

Thus, states may report areas that reflect initiatives such as improving services for disadvantaged populations, eliminating portable classrooms, encouraging students to enroll in challenging courses, promoting a positive climate for learning, or graduating from high school.

Indicators and the High Stakes Debate Of the states in this report, all require that students take state-mandated achievement tests. High stakes outcomes may, however, be linked to indicators other than state tests. For example, school districts may be responsible for improving upon and ultimately meeting goals for student attendance or graduation from high school. School Reports should include an explanation of indicator areas that are linked to high stakes objectives and what school districts and schools must do to meet those objectives.

Recommendations

1. A "site map" page should be provided for web sites with many pages where considerable amounts of information are provided. A site map provides a list of each subweb or page on a site and is a very helpful supplement to the main menu and the search engine.
2. It is helpful to provide a printer-friendly option on web pages so that text-only may be printed, without color or images.
3. It is helpful to provide users with sufficient information to accurately and completely cite the data that they obtain from a web source, particularly since URLs often change.
4. It is helpful to provide downloadable .txt, .dat, .csv, .xls, .dbf, or .mdb files for large data tables that are posted to web sites in addition to the published Report Cards.
5. It is helpful to provide a glossary, file layout, and other necessary explanatory information for data that are made available for download from web sites.
6. It is helpful to provide community information on Report Cards.

7. It is helpful to provide information about school programs on Report Cards, such as a reporting area to indicate if a school is a magnet, charter, or year-round school, or if a preschool or kindergarten program is half-day or full-day.
8. It is helpful to provide student achievement scores for each grade and subject tested in addition to composite scores on Report Cards.
9. It is helpful to provide educator T & E on State and District Report Cards.
10. It is helpful to provide high school completor and dropout follow-up information on Report Cards as an outcome indicator for a school district or school.
11. It is helpful to have all Report Card information (student demographics, student performance, and district educator and financial indicators) for a single school district or school in a district on the same web page.

Choosing the Right Path Is Important!!

Implications for Policy and Practice

Boards of Education and legislatures make education policies and enact education laws; administrators and teachers implement them. School Report Card indicators often provide a component of the information upon which school boards, legislatures (and sometimes Courts[13]) act in making their decisions. Although it is beyond the scope of this report, there are various implications for so-called "high stakes" accountability indicators that may lead to counterproductive results. One example might be schools that discourage the reporting of incidents of violence and other discipline problems because the numbers will be on the school, district, or state Report Card. However, it is important to have these data as decision makers often use school indicator information to justify and obtain funding for training and programs designed to promote school safety. Gaps in achievement between groups of students must be identified so that solutions can be found to close them.

Information provided by indicators on school accountability reports may certainly influence policy and has the potential for bringing about positive change. Christy and McNeal (2001) surveyed school board members to determine the influence of their concerns on state legislation in Arkansas. They found that almost 50 separate acts had been passed by the Arkansas legislature that directly responded to concerns of Arkansas school board members. Twenty percent of school board members responded that their greatest concerns were receiving adequate funds to operate schools and meet standards, 19% were concerned about paying competitive salaries to retain good teachers, and 17% were concerned about finding qualified teachers. Twenty-seven percent responded that the chief obstacle to long-term improvement in student achievement in their district was increasing parental interest and involvement in their children's education.

In Alabama, Kentucky, and Tennessee disparities in funding levels between poor and wealthy school districts led to changes in those states' systems for funding education. Mandated changes in graduation requirements and student testing sought to assure that all students received an adequate educational opportunity. While students in poor and rural communities may or may not have differed greatly in achievement on standardized tests, in many cases their schools were not able to offer the courses necessary for them to earn "college preparatory" diplomas or to have adequate facilities for athletic or band programs. In Tennessee litigation over disparities in adequacy of education led to legislation requiring that all school superintendents be appointed and that school boards be elected.

Well-designed studies that have produced strong evidence of the efficacy of interventions have resulted in such initiatives as federal or state-mandated reductions in class size or pupil-teacher ratios, the establishment of site-managed charter schools, alternative schools, Family Resource Centers, full-day kindergarten, year-around schools, programs for English Language Learners, talented and gifted, and special education students to mention only a few.

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[13]Ex Parte James, 713 So.2d 869 (Ala. 1997), McDaniel v. Thomas, 248 Ga. 632, 285 S.E.2d 156 (1981), Rose v. Council for Better Education, 790 S.W.2d 186 (Ky. 1989), Tennessee Small School Systems v. McWherter, 894 S.W.2d 734 (Tenn.1995). Source: David Long.

NOTES

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APPENDIX A

Coding Template for Report Card Indicators as Measures of Organizational Elements[14]

Indicator	Input	Process	Product	Output	Outcome
N portable classrooms					
N schools meeting class size requirements					
N districts					
N schools					
N Title 1 schools					
N Before and after school programs					
N Headstart programs					
Pupil/teacher ratio					
Total per pupil expenditure					
Per pupil expenditure state funds					
Per pupil expenditure local funds					
Per pupil expenditure federal funds					
N Carnegie units taught					
N AP classes					
AP students as % of high school enrollment					
N students total and by grade level					
Enrollment by gender & ethnicity					
Average daily attendance					
Revenue sources, local, state, federal, other					
Mills equivalent or ad valorem					
N Transportation and School lunch					

[14]Template may be used for either the 3 or 5 category model by combining Process and Product and Output and Outcomes

Indicator	Input	Process	Product	Output	Outcome
Expenditures by category: instructional, admin., capital outlay, operations, debt service, transportation, etc.					
N professional personnel FTE by category					
N professional personnel by gender & ethnicity					
N teaching waivers or emergency license					
Average teacher salary					
Average years teaching experience					
N Bachelor, Master's, and Higher Degrees					
% Classes taught by teacher with major/minor in subject taught					
% Classes taught by teacher certified for subject/grade					
% Classes taught by teachers who participated in content-area professional development					
N students Special Ed, Gifted, Adult Ed, Vocational					
N or % students Title I					
N or % ESL					
Graduation requirements					
Narrative data					
N or % Discipline by type					
N or % Dropouts					
N or % Dropouts by gender and ethnicity					
N or % Retained students					
N or % Promoted					

Indicator	Input	Process	Product	Output	Outcome
Total battery scores for normed and criterion tests					
Scores for each tested subject: language, reading, math, science, social studies					
Writing performance scores					
Value-added for tested subjects					
Achievement/Ability comparison, Performance Index					
High School Exit Exam pass rates					
ACT subtests and composite average					
SAT average, verbal and math					
N Diplomas awarded by type					
N Graduates					
N Graduates by gender & ethnicity					
N GED					
N Programs with Industrial Certification					
School Accreditations					
School Awards and Recognition					
N Schools Clear, Caution, or Alert status (high stakes)					
Per capita income, state, local					
Unemployment rate, state, local					
Migrant population, state, local					
Total population, state, local					
Population ethnicity, state, local					